



INVESTIGATION INCREASES DISEASES IN LIVE STOCKS DUE TO PLASTIC EATING BY INCREASING PLASTIC POLLUTION: A CASE STUDY OF PUNE CITY AND SHEDANI VILLAGE

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ABSTRACT:

Plastic pollution has become a critical environmental issue, affecting terrestrial and aquatic ecosystems worldwide. This paper delves into the origins, pervasive nature, and detrimental impacts of plastic waste on the environment, wildlife, and human health. The discussion includes an analysis of the various sources of plastic pollution, its persistence, and the challenges associated with mitigating its effects. Furthermore, the paper explores current initiatives, innovative solutions, and policy measures aimed at reducing, managing, and preventing plastic pollution. The urgency to address this global crisis necessitates collaborative efforts involving governments, industries, communities, and individuals to effectively curb the exponential growth of plastic waste and safeguard the planet for future generations.

We are focusing on one village and a city as to compare the situation of the plastic pollution that we are focusing the problems which people of the village are been suffering. We analysed the data of the village we also visited the hospitals to find the situation of the animals that are been suffering through the plastic and also, we interacted with the people of that selected village as well and then we asked them problems that they are been suffering regarding to the plastic through all this we also found that the area we selected is less populated area as same with the city as Pune we collected the data regarding to the animals which are effected by the plastic pollution also we visited the dumping areas to collect the data of how much plastic waste is been dumped in the city of Pune.

KEYWORDS: *Cattles, Plastic Indigestion, Diseases, Hospitals.*

INTRODUCTION

Plastic pollution has become a pervasive global issue, significantly affecting both terrestrial and marine environments. The uncontrolled disposal and persistence of plastics have resulted in widespread contamination, posing threats to ecosystems, wildlife, and human health. This proposed study aims to comprehensively investigate the sources, distribution, and impact of plastic pollution originating from land based activities and its subsequent journey into marine environments. By understanding the interconnectedness of land and marine plastic pollution, the study intends to explore mitigation strategies and potential interventions to curb this escalating environmental crisis.

Addressing the impact of plastic pollution on livestock is crucial due to its far-reaching consequences on both animals and human health. As plastic waste continuous to pervade our environment, animals indolently. We focused on animals which got affected by plastic. Two areas were

compared to understand the effects of plastic on various aspects of environment. Shenadi Village from mulshi and Shivajinagar area from Pune were chosen for comparison.

We will be doing the survey of the village that how it is getting affected by the plastic pollution to the livestock of the Shivaji Nagar and the Shedani village we will analyses the problems and collect all the data possible and mention it in this research as I think that small steps are big for an good work and we will find the solutions to this research as well.

This paper will be focusing on the both the situation as a rural Shedani village and the urban area situation a Pune Shivaji nagar city.

Shedani Village:

Shedani is a village in Mulshi taluka of Pune district in the state of Maharashtra, India. Talukas surrounding the village are Karjat taluka, Talegaon Dabhade Taluka, Mawal taluka and by Khalapur taluka. Districts closest to the village are Raigad district, Thane district, Mumbai City district and Mumbai Suburban district. The nearest railway stations to the village are Vadgaon railway station, Begdewadi railway station, Lonavala railway station, Talegaon railway station and Kamshet railway station.

Plate No. 1.1



Sourced from Google Earth

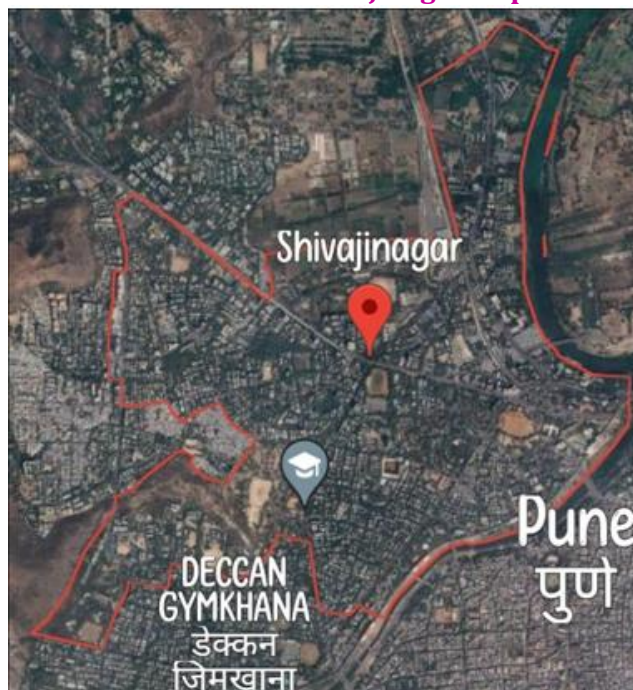
Pune Shivaji Nagar:

Shivajinagar (also known as Bhambwade, Bhamburde) is an inner suburb of the city of Pune, India. Shivajinagar is known as Heart of the City. Shivajinagar has a very long history, with the 8th-century, Rashtrakuta-era Pataleshwar cave temple being the oldest manmade structure in Pune.

The neighbourhood was earlier a village known as Bhambwade, with the name changing over time to Bhamburde. Bhamburde Was owned By Faqeer Mohammad Attar. Bhamburde Was Given as

Inam (Gift) To Faqeer Mohammad Attar In Exchange Of Kasba Peth, Pune By Chhatrapati Shahu Maharaj.

Plate No. 1.2 Shivajinagar Map



Sourced from Google Earth

OBJECTIVES OF THIS RESEARCH

1. To analyze the animals who get suffer from eating this garbage
2. Will try to create awareness through friends, colleagues and classmates

METHODOLOGY

1. Primary Data:

Household data of Shedani village:

Data was collected using Questionnaires. Around 15 families were surveyed in Shedani Village.

Questions were based on following points:

- 1) No of members in each family
- 2) No. of livestock
- 3) Types of plastic found in village
- 4) Methods of waste management
- 5) No. of animals in house
- 6) Diseases they are affected due to plastic waste (Animals)
- 7) Availability of hospitals in vicinity

Medical Data: which is collected from the hospitals

Medical data regarding animal health was collected from veterinary hospital in Paudgaon which was the nearest veterinary hospital to Shedani. Data was collected with the help of following points:

- 1) Type of Animals are treated over here
- 2) Do this hospital provide the Emergency Cases of animals
- 3) Do they provide the general clean up test and vaccination to the animals
- 4) The Common Symptoms or signs that an animal has ingested the plastic
- 5) The treatment options available for animals that have ingested plastic

- 6) The expected recovery time for an animal that has undergone treatment for plastic ingestion
- 7) The costs associated with treatment for plastic ingestion in animals

Primary Data regarding the Pune city

We visited the veterinaries of Shivaji Nagar to collect the data related the city situation of animals affected by the plastic pollution. With the help of the questionnaire on the bases of context we selected.

- 1) The common symptoms or signs that an animal has ingested plastic
- 2) Diagnostic tests do you typically perform to confirm plastic ingestion
- 3) The treatment options available for animals that have ingested plastic
- 4) Walk me through the potential risks and complications associated with plastic ingestion in animals
- 5) Determine the severity of the situation and the appropriate course of action
- 6) Any preventative measures I can take to reduce the risk of my pet ingesting plastic
- 7) The expected recovery time for an animal that has undergone treatment for plastic ingestion
- 8) Any long-term effects or considerations I should be aware of after my pet has ingested plastic
- 9) The costs associated with treatment for plastic ingestion in animals

Secondary data

Various articles, interviews and monologues regarding effects of plastics on livestock and animals. We went through various type of articles to have some information regarding to the plastic affecting the livestock.

Also we searched for the information regarding the waste management of the Shivaji Nagar city like how much amount of plastic waste is basically dumped over an area of that city weekly, monthly, yearly.

- 1) Types of waste are collected here
- 2) The amount of plastic waste generated
- 3) The waste segregated. how is it done
- 4) How is it processed
- 5) The garbage center offer recycling services

Plate No 5.3





Sourced from Author

Findings and Results Primary data

1.6.1 Shedani Village

55km from Halveli [pune] In this village we surveyed there about the household count of total number of people their have been living we usually got to know that there most of the people have been migrated to the urban area for the jobs.

As we talk with them they were like most of the families of the village have now shifted to the city side area to have an developed life and all the need- able facilities to live their life peacefully.

When we were doing the survey we reached out every house for the information of the total count of the people they have been living their each family and also total number of count of animals they have pet in their house.

We found out that there are total 13 families living over there and over all there are 21 females in the village and 14 males and pets that are they all are having in their house are the total 96.

1.6.2 Shedani Plastic Disposal Methods

When we visited every house we asked them about that what they do with the remained plastic where do they through it what's an end process of the plastic they have in their house wat they do with it.

1. What type of plastic is found basically in their house?

They would everyone answer that the packages products which they buy to eat like snacks(candy, kurkure, Maggie and etc)or any product like an oil packet which comes with an plastic packed cover. Polyethylene terephthalate (PETE or PET).

2. Where do they Dump the Plastic?

When we asked them about what they do after using that plastic where do they dump it everyone answered like they don't dump their waste anywhere they don't have an kind of facility of dumping their waste anywhere they have not provided any type of waste collecting facility by the government they said they do collect all the plastic separately to fire their chulhas.

3. Why do they Fire their Chulhas with Plastic?

They answered like they don't have any kind of facility like they are not provided to burn their chulhas that's why they collect all type of plastic and then they use it as to burn their chulhas for making food because as we know basically the plastic generally catches the wire quickly.

4. Where and how to they dump their other types of waste?

When we asked them about the other waste which is collected left over food and many other things which goes in the waste like sanitary waste and all they answered like the solid waste they collect it all then they go and use it as a manure in their farms they once in a week go and through that waste into that dumping.

5. Where they collect all the waste?

They make an big holes itself in the backside of the village where they daily through their any kid of waste and later when that hole is filled they burn that all waste.

1.6.3 Paud Goan Hospital

When asked the village people during the survey that when your pet gets sick or any knd of medial need they need what they do they all answered that we have travel to the another city to get our pet's treated or we call doctors to village.

The most of the people told us about Dr. Vardhaman and Mr. Pramod Balkawade treat the animals there they are having their clinic in the paud village that is 23 km away from the shedani village.

And for the survey we went to the paudgoan hospital for the information related the animals which was required to have even we asked the shedani people about don't they have any other hospital they said no the only which they know is this.

1. Animals are treated

They told us that they treat any kind of animal which people bring to the hospital they told us mostly we have treated the wild pigs and the cows the count of that animals is more. but they treat every kind of people there was not any specific kind of animal.

2. Providing medical facilities at the times of emergency cases

The doctor told us that they attend the emergency cases also for the animals. But they don't provide any kind of vaccination or the cleanup general checkups for the animals.

3. Common Symptoms or signs that an animal has ingested the plastic and treatment options available for animal that have ingested plastic.

The Common Symptoms or the signs that the animals have ingested the plastic is that they eat anything or the stomach of that animal is swelling or they do vomit they get weakness also all these things are seen in the ingested plastic animal case. And after knowing that they ingested the plastic in emergency case they provide an surgery for that animal they do Rumenotomy Operation thy have to do this and remove the plastic from the stomach of that animal.

Table No. 1.1 Cattle numbers in village

Cattle found	Number
Dog	4
Cat	3
Hens	29
Buffalo	18
Bull	8
Cow	20
Goat and Sheep	5

Table No. 1.2 Cattle numbers in village

Sr No	Type of Animal	Count	Type of Disease
1.	Cow	6	Ingestion of plastic Lumpy
2.	Buffalo	3	Lumpy
3.	Cat	5	
4.	Hens	13	Bird flu
5.	Sheep	2	Maggots

Sourced from Author

Expected recovery time for an animal that has undergone treatment for plastic ingestion and the costs associated with treatment for plastic ingestion in animals

They will need at least 1 month to recover and if they do surgery, they required 1 to 2 days and if animal is unable to bear the pain, it succumbs to the injuries. Generally, the cost of the operation government provides up to 1000/-.

The situation in Shivaji Nagar related to plastic pollution is characterized by: Lack of Proper Waste Management Infrastructure: Insufficient waste management infrastructure might result in inadequate collection, segregation, and disposal of plastic waste, leading to its accumulation in streets, drains, and water bodies.

Impact on Public Health:

Improper disposal of plastic waste can create breeding grounds for pests and disease vectors, leading to public health concerns such as the spread of diseases and respiratory issues due to open burning of plastic waste.

Environmental Degradation:

Plastic pollution adversely affects the local environment by contaminating soil, water bodies, and the air. It poses a threat to biodiversity, particularly marine life if the waste finds its way into rivers or oceans.

Community Awareness:

There might be varying levels of awareness within the community regarding the hazards of plastic pollution and the importance of proper waste management practices. Efforts to educate and engage the community in waste reduction and recycling initiatives could be beneficial.

Policy and Enforcement:

The effectiveness of existing regulations and their enforcement in mitigating plastic pollution could be assessed. Strengthening regulations, implementing stricter penalties for violations, and promoting sustainable alternatives to single-use plastics might be necessary.

Community Initiatives:

Grassroots initiatives and community-led clean-up drives can play a significant role in tackling plastic pollution. Collaboration between local authorities, NGOs, businesses, and residents is crucial for implementing sustainable solutions.

Innovation and Technology:

Exploring innovative technologies for plastic recycling and waste-to-energy solutions could help address the plastic waste problem more effectively.

CONCLUSION:

- Much of the rural areas lack proper infrastructure for waste disposal. Due to poor or no facility for waste disposal, people burn it including plastics. It is harmful for health.
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- We also studied that the village is not properly facilitated about the veterinary hospitals and also they are not having an proper way of dumping their waste which is somehow affecting the human health also.
- Plastic pollution poses a significant threat to the health and well-being of both village and city livestock. In rural areas, where farming and animal husbandry are prevalent, livestock such as cows, goats, and poultry are exposed to plastic waste through contaminated grazing lands, water sources, and open dumping grounds. In urban settings, stray animals and domestic livestock face similar risks due to the widespread presence of plastic debris in streets, parks, and water bodies. The ingestion of plastic by livestock can lead to a myriad of health issues, including digestive problems, internal injuries, and poisoning from toxic chemicals leaching out of plastics. Moreover, environmental contamination from plastic pollution further exacerbates the risks faced by livestock, affecting the quality of grazing lands and water sources essential for their sustenance.
- Addressing the impact of plastic pollution on livestock requires concerted efforts at multiple levels. This includes implementing effective waste management practices, promoting plastic alternatives, raising awareness among communities about the hazards of plastic pollution, and enforcing regulations to minimize plastic waste generation and ensure proper disposal.

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